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ORGANIZATION FOR THE ENLARGEMENT BY THE STATE OF TEXAS OF ITS INSTITUTIONS OF HIGHER EDUCATION.

370

A STUDY OF THE FINANCIAL BASIS OF THE STATE UNIVER-SITIES AND AGRICULTURAL COLLEGES IN FOURTEEN STATES.

The most practical means of forming an intelligent opinion of the proper financial basis which should be provided by a State for its institutions of higher education will be afforded by a genuine study of existing conditions in all the States that have seriously undertaken to secure efficient services from such institutions.

In some States, such as Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, and Maryland, great endowed institutions have obviated the necessity of universities maintained by the co-operation of the people.

In many States the people have not yet learned to understand the commonwealth's need of the services of higher education. They still entertain the notion that only those who attend a school are benefited by that school, and are blind to the truth that higher education may be of incalculable worth and service to society at large. It would be profitless to study the condition of the institutions maintained by such States, unless one wished to consider

warning examples.

Universities which derive their financial support wholly or mainly from endowments have been excluded from this study. They would, indeed, afford many notable examples of useful lines and methods of service; and in any study intended to elaborate a program of desirable activities on the part of a university, the practice of such institutions should be carefully considered. Some such study may be undertaken by the present writer in the future. The limited purpose of this investigation is to show the financial basis of the leading State institutions of higher education, in order that the people of Texas may learn what the people of other States are doing for themselves.

It should be noted that, in some of the States whose people are doing most for themselves, strong denominational colleges and great endowed universities also exist, rendering their share of the desired services. The most notable cases are Leland Stanford University in California, the University of Chicago in Illinois, and the University of Cincinnati in Ohio. To show what those States are really getting, these universities should have been included along with the State institutions; but only the State institutions are taken into account. The comparison with Texas here presented is, therefore, more favorable to Texas than the full truth would be.

The indicated principles of selection lead to the following States, as those whose Legislatures have provided approximately adequate financial resources for the development of efficient State universities: California, Colorado, Illinois, Indiana, Iowa, Michigan, Minnesota, Nebraska, North Dakota, Ohio, Wisconsin. I do not mean that all the universities concerned are efficiently organized or administered; but the people have undertaken to do their part.

Colorado and Nebraska fall so low when income is divided by number of students, that it may seem illjudged to have included them; but the 10-cent university tax in Nebraska and the 8-cents tax in Colorado show that they 'have seriously undertaken to secure efficient services." A proper foundation has been laid and conditions will improve as their wealth increases.

Little Wyoming, with her State University tax of 5 cents on the \$100, should have been included so far as the wise foundation which has been laid by her people is concerned; but both the State and the University are yet so small (the population of the State is only 145,965), that its inclusion would cause misleading results. At present the University of Wyoming costs more per inhabitant, more per \$1000 of wealth in the State, and more per pupil, than any other State university in the country; but these consequences of the small size of the University and the small population and wealth of the State could not be fairly compared with disparate conditions in other States.

The omission of Virginia may be surprising to some readers; but in spite of the priceless asset possessed by the University of Virginia in its honorable traditions, and in spite of the brave efforts of its administrators and faculty, the people of the Old Dominion have not yet provided a financial basis sufficient to justify the inclusion of Virginia in a group selected on the principle here applied. Except for Kansas, which is to be presently mentioned, it is

believed that no other omission calls for explanation.

There remain three States which stand between the omitted States, and any one or the average of all of the States chosen. Those three are Kansas, Missouri, and Texas. In each, movements are on foot to secure the services to the commonwealth, needed everywhere, and which are being enjoyed by the people

of the most progressives States.

Kansas might have been included in the leading group, if one regarded only the rate of expenditure per inhabitant or per unit of wealth; but when the ratio of number of teachers to number of students, and income divided by number of students are considered, the former places it little above and the latter puts it below Texas. The people of Kansas spend three times as much per inhabitant for higher education as do the people of Texas; but Kansas, with less than half the population of Texas, has a thousand more students than are in the corresponding institutions in Texas. It is believed that Kansas will soon adopt financial measures which will secure efficiency in the rapidly developing work of its institutions.

Missouri barely missed last year success in establishing a tax for the proper maintenance of its State University. The constitutional amendment for the university tax was unfortunately submitted on the same ballot with ten other amendments, some having been put on the ballot by joint resolution of the Legislature and some by initiative and referendum. All met a common defeat. It is confidently expected that a similar amendment, freed from the complications of last year, will be submitted to the people and adopted

next year.

It remains to be seen when Texas will take a similar step, either through act of the Legislature or constitutional amendment, as may be required.

President Albert Ross Hill, the great president of the University of Missouri, in a letter dated February 1, 1912, says: "The work you are beginning there should prove an inspiration to all State universities, especially this one, for they are, I believe, destined to be the only great universities in the Southwest—at any rate, for a long time to come."

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PRELIMINARY EXPLANATIONS FOR TABLE I.

It is most significant that the States which had to be included in a group of "all the States" that have seriously undertaken to secure efficient services" from their State institutions for higher education should turn out to be exactly those States which have adopted the method of a State tax for the maintenance of their universities,—and no other States.**

There is an important lesson in this for any State which precipitates its educational institutions into a free-for-all scramble before each Legislature

in order to continue a precarious existence.

Illinois is not shown in the table with any income from a State tax; but the Legislature of Illinois has recently enacted a law which will levy for the future a tax of 1 mill on the dollar (10 cents on \$100) for the University of Illinois. After next year this tax will supply about \$2,250,000 a year. Illinois, however, would have been included on the merits of past years. The appreciation by the Illinois Legislature of the people's need of a good State University has secured appropriations so nearly sufficient that the need for a more systematic way of support has not been pressing in Illinois. For instance, the Legislature appropriated \$1,216,500 for the year 1909-10, and \$1,097,000 for 1910-11 (the year dealt with in the table), in addition to the university's nearly half-million dollars a year from other sources. Illinois has, also, the still larger University of Chicago, which is not taken into account at all in the comparisons shown in this study.

It should be stated in regard to California, that during the year 1909-10 the University of California received from private donations \$1,156,323, much of which was available for 1910-11; but no part of that great assistance (44 cents per capita for the entire population) is shown in the income for last year given in the table. The attentive reader will see at various points how the average scale of expenditure is really much greater than the mini-

mum result presented in the conclusion of this investigation.

It would not have been desirable, but it was also impossible to consider universities apart from agricultural colleges. In nearly half of the States

which required investigation both are combined in one university.

For the convenience of Texas readers the separate figures for the Texas institutions have been given, but it is their sum, entitled "Texas," which should be compared with the figures for other States. The College of Industrial Arts for Women, at Denton, is a rather unique institution, and nearly half of its students are yet "preparatory"; nevertheless—in order to give Texas all possible credit for expenditures for higher education—that institution was included.

The names of the States in the tables here presented, refer, therefore,

^{*}The omission of Wyoming to avoid obscuring the statistical result has been explained.

**There are three other States (Ky., S. C., and Tenn.) in which the law provides a trifling tax for a State university or agricultural college, but the rate of the tax is so absurdly small that it demonstrates the very opposite of a measure "seriously undertaken." The people are worse served than if their institutions were left entirely to appropriations by each legislature.

respectively, as the case may be, either to one comprehensive State university, or to the sum of independent parts of such a university, as follows:

California-University of California.

Colorado-University of Colorado, State Agricultural College, Colorado School of

Illinois-University of Illinois.

Indiana—Indiana University, Purdue University.
Iowa—State University of Iowa, State College of Agriculture and Mechanic Arts. Michigan-University of Michigan, Michigan State Agricultural College, Michigan College of Mines.

Minnesota—University of Minnesota. Nebraska—University of Nebraska.

North Dakota-State University and School of Mines, North Dakota Agricultural College.

Ohio-Ohio University, Ohio State University, Miami University.

Wisconsin-University of Wisconsin.

Kansas-University of Kansas, Kansas State Agricultural College.

Missouri-University of Missouri.

Texas-University of Texas, Agricultural and Mechanical College of Texas, State College for Women.

TABLE I

1910-1911 State Universities and A. & M. Colleges	State tax in cents on \$100	Income from State tax	Additional appropriations by Legislature	From [United States Govern- ment	Income from productive endowment	Income from private donations	From student fees and all other sources.	Total income for the year 1910-1911
California Colorado Illinois Indiana Iowa Michigan Minnesota Nebraska North Dakota Ohio Wisconsin Average	$\begin{array}{c c} 3 \\ 8 \\ \hline \\ 2 \\ 4 \\ 4 \\ \frac{3}{4} \\ 2 \\ \frac{1}{10} \\ 10 \\ 5 \\ \frac{1}{3} \\ 5 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0$	\$710,773 313,920 350,014 287,522 823,697 410,285 391,500 127,557 554,517 783,765 \$432,141	$127,869 \\ 1,097,000 \\ 237,500 \\ 728,650 \\ 74,000 \\ 1,060,377 \\ 110,000 \\ 222,817 \\ 476,975 \\ 444,135$	73,638 75,000 75,000 75,000 75,000 75,000 75,000 45,000 75,000	32,468 61,445 42,703 126,767 59,157 42,250 106,506 68,405 36,503	200,000 231,612 5,986 45,463	132,677 355,572 217,494 285,008 824,548 203,981 130,232 83,230 212,346 404,603	1,560,040 1,141,453 1,418,883 2,155,624 1,806,800 748,982 615,110 1,363,229
Kansas none none \$886,022 \$75,000 \$38,492								
Kansas	none	none						
Missouri	none	none	\$638,330	\$72,187	\$64,561		\$78,715	\$853,793
Univ. of Tex A. & M. Col Woman's Col				\$63,750	\$157,185 8,234		\$30,564 33,595 2,350	364,829
Texas	none	none	\$595,017	\$63,750	\$165,419	\$100	\$66,509	\$890,795

The rates of the State taxes are on various assessment bases; for adjustments see Table III. In Illinois the last legislature enacted a law establishing a 10 cents tax for the State University, which for the future will more than double the annual appropriation given in the table. In the columns showing income from Private Donations and Productive Endowment, receipts for fellowships, scholarships, and prizes have been excluded. Such moneys help individuals, and in some cases (especially endowed fellowships) help the public service, but have nothing to do with the financial support of a university.

In the column "Student Fees and all other sources," fees for board and rent are excluded for the same reason. Student fees yield about 60 per cent of the amounts in that column.

COMMENT AND INTERPRETATION—TABLE I

The most important feature of the present study will be obscured for any reader who fails to grasp the significance of the "Average" shown in each column of the tables. The interpretative comments offered in this study

deserve, therefore, the reader's attention.

The last column of Table I gives the total income of each State university. The Average, in that column is significant only in connection with the number of students, etc., in Table II, and with the population, etc., in Table III. Duly related with the developments of the other tables, it will afford just means for estimating the cost of institutions in Texas which would have the average efficiency of the institutions referred to. Of course "average efficiency" has no numerical meaning, since efficiency in a concrete case depends as much upon the wisdom of persons as it does upon the financial basis. It would be impossible in a statistical discussion to take the wisdom factor into account.

One conspicuous advantage of this average is its reduction of the annual expenditure required for buildings to a normal or steady factor. In a comparison of any two institutions for any one year, this factor is likely to be very disturbing.

The sources of income are shown in the table; but I can not urge too emphatically that (except for one instructive lesson) the sources have no rational bearing upon the main question the people of Texas need to consider.

The important point is the total income required. In considering any particular university, its income from Federal government, productive endowment, and any independent source, such as private donations, should be de-

ducted; the remainder is what the State needs to provide.

For instance, the University (including A. and M. College) in Texas has eleven times as much income from productive endowment, as is the case in Colorado. The fact is of no practical interest to the people of Colorado. If they desire the services of the "Average" university, they have simply to supply the difference. Or, to take another example, past experience entitles the people of some States* to count upon a substantial yearly income from private donations. So much the better for them, but that has, as yet, no practical bearing upon the question in Texas.

The column "Additional Appropriations" affords an instructive lesson, if Texas is to take a place among the States whose practice is shown. The proof there lies open to the reader that, if the benefits of a tax for higher education are to be secured, a greater rate than the average is necessary. The experience is the same in every State, and in some the additional appropriations far exceed the incomes from the specific taxes. Surely the lesson is plain.

The comparison of Texas with the "Average" will be advantageously deferred until the data of Table II and Table III are also before us.

*See reference to California on page 3. The University of California usually receives larger gifts than was the case in 1910—the pear of the Table.

TABLE II.

1910-1911 State Universities and A. & M. Colleges	Number of Professors and Instructors	Number of students excluding Summer Schools	Ratio of No. of students to No. of Professors and Instructors	Total annual income	Total income divided by number of students	Estimated value of grounds, buildings and equipment
California Colorado Illinois Indiana Iowa Michigan Minnesota Nebraska North Dakota Ohio Wisconsin	421 255 578 226 348 470 363 333 156 320 486	4314 2251 4896 3838 3619 6541 4156 2839 1199 4102 4099	10.2 9.6 8.5 11.8 10.4 13.9 11.4 8.5 7.7 12.8 8.4	\$1,672,716 $622,454$ $1,560,040$ $1,141,453$ $1,418,883$ $2,155,624$ $1,806,800$ $748,982$ $615,110$ $1,363,229$ $1,789,469$	\$388 294 319 297 392 330 435 264 513 332 437	\$9,488,122 2,618,771 4,304,935 2,296,150 5,684,239 6,427,722 6,070,000 1,929,850 1,590,500 6,253,138 5,660,072
Average	369	3805	10.2	\$1,357,706	\$364	\$4,756,680
Kansas.	270	4082	15.1	\$1,098,047	\$269	\$2,895,363
Missouri	173	2741	15.8	\$853,793	\$311	\$2,366,337
Univ. of Tex A. & M. Col Woman's Col	107 68 26	1939 1057 272	18.1 15.5 10.5	\$483,291 364,829 42,675	\$249 345 157	\$1,818,000 1,195,485 201,000
Texas	201	3268	16.3	\$890,795	\$273	\$3,214,485

COMMENT AND INTERPRETATION—TABLE II.

In the column, "Total Income Divided by Number of Students," the exact nature and derivation of the figures is stated in the heading of the column, and the reader needs only to be reminded that every institution concerned expends considerable sums on scientific research, agricultural experiment stations, geological surveys, and "university extension" services of great variety. In some instances thousands of persons not included in the "number of students" are systematically taught by correspondence. A great many other services to the State and to individual citizens, besides teaching the students "for the regular term of enrollment," might be mentioned.

The numbers in the first column exclude tutors and student assistants.

The second column gives the number of students for regular term of enrollment, excluding summer school and short-course students, and those who study through correspondence. Preparatory students are also excluded in the few cases where any such are received. One exception to the last statement has been mentioned in speaking of the Texas college for women.

In the column "Ratio of Number of Students to Number of Professors and Instructors," and in the column "Total Income Divided by the Number

of Studentc," either of two procedures might be followed.

Consider the "Income Divided by the Number of Students": The average of the numbers stating the facts for the eleven different States represents an average condition referring to the eleven different conditions in the eleven different States. The result, \$364, is given in the table. On the other hand, the total income of all the institutions divided by the total number of students gives a corresponding fact for the 41,854 students and the \$14,934,760 of the entire group, which is \$357.

In the column giving the ratio of number of students to number of teach-

ers, it happens that the result is the same either way.

TABLE III

States	Population Census 1910	Amount s p e n t by State Institutions for Higher Educa- tion per inhabitant.	Assessed valuation of property in the State in 1910,—all reduced to 50 per cent of actual value	Amount spent by State Institutions for Higher Education per \$1000 of wealth at 50 per cent of actual value	Tax rate in cents on \$100, at 50 per cent of actual value, which would provide the part of total cost paid by the State
California	$\begin{array}{c} 2,377,549\\ 799,024\\ 5,638,591\\ 2,700,876\\ 2,224,771\\ 2,810,173\\ 2,075,708\\ 1,192,214\\ 577,056\\ 4,767,121\\ 2,333,860\\ \hline 2,499,722\\ \end{array}$	\$.71 .83 .28 .42 .64 .77 .87 .63 1.06 .29 .77	\$2,373,897,092 622,328,666 3,237,972,675 1,480,110,080 1,512,710,640 1,451,012,615 1,746,329,110 1,038,675,187 696,485,482 1,960,567,353 1,470,706,421 \$1,599,163,211	\$.70 1.06 .48 .77 .94 1.48 1.03 .72 .86 .69 1.22	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
Kansas	\$1,690,949	\$.65	\$1,528,943,030	\$.71	6
Missouri	3,293,335	\$.26	\$2,255,372,739	\$.38	3
Texas	3,896,542	\$.22	\$2,391,109,795	\$.37	$2\frac{3}{4}$

Note: The next to the last column does not state the tax paid on property worth \$2000, but what would have to be paid on that amount of property, if the institutions were maintained entirely by taxation. The last column gives the rates actually paid (without making due allowance for cost of collection and delinquency) on assessments alleged to be at 50 per cent. of actual value.

The rates in every case are reduced to the same basis of assessment, 50 per cent of actual value. For instance, the nominal rate of tax for the University of Nebraska is 10 cents, and nearly 3 cents is added in additional appropriation by each Legislature; but the basis of assessment in Nebraska is only 20 per cent of actual value. Hence, in the just treatment of facts presented in this study, the rate in Nebraska is put down in its true relation, as only 5 cents.

COMMENT AND INTERPRETATION—TABLE III

The assessed valuation of property in each State has been reduced to the same percentage of actual value. The reported percentages* for the States considered comprise valuations at 20 per cent, 25 per cent, 33 per cent, 33 per cent, 35 per cent, 40 per cent, 50 per cent, 55 per cent, 60 per cent, 80 per cent, and 100 per cent of actual value. The Texas assessment has been assumed to be at 50 per cent of actual value. Unless reduced to the same basis, comparison would be absurd. What would it mean, for instance, to compare directly Nebraska's assessment at 20 per centum of actual value with Wisconsin's genuine full rendition at 100 per centum of actual value? Assessed values are vague enough at best; but probably each State falls short of the truth, for its alleged basis, to approximately the same extent, and when all are reduced to the same basis comparisons may be made.

It may be remarked that the reported percentages of actual value will be high, if the assessments should be compared with estimates of wealth, such as those of the Department of Labor and Commerce of the Census Bureau. It is the opinion of the writer that the reported percentages (33 and 60) for Illinois and Ohio are disproportionately high. Doubtless much wealth escapes the assessor, but the matter in hand is practically limited to wealth that is listed by the tax assessor. The question has little to do with the important object of this investigation, which is to ascertain the actual cost of a commonwealth university having the average efficiency of the better sort of such institutions. How all the existing wealth in Texas, or in any other State, might be equally reached for taxation, is another and more difficult

question.

The column, "Amount Spent by State Institutions for Higher Education per \$1000 of Wealth at 50 Per Cent of Actual Value," does not show the actual cost to each owner of property worth \$2000, but what the owner of such property would pay if the institutions were maintained entirely by direct taxation. The last column gives for each State the tax rate in cents on the \$100 of assessment alleged to be at 50 per cent of actual value, which would provide the part of the cost that was paid by the State.

It should be constantly borne in mind that the valuable fact for the practical consideration of every statesman and intelligent citizen of Texas is the

proper total cost of the institutions needed by the people of this State.

The income from the Federal government and permanent endowment and any other independent source is a known factor. Deduct that amount, whatever it may be, and the remainder will be what the people must pay, if they propose to secure for themselves the services renderd by the "average" commonwealth university in the group of States considered.

The "Average" in the column showing the amounts spent per \$1000 of wealth at 50 per cent of actual value might be derived in either of two ways: by taking the average of the eleven different conditions in the eleven States.

^{*}The assessments for the year 1910 and percentages of actual value have been taken from the World Almanac and Encyclopedia, issues of 1911 and 1912. For Michigan and Texas no percentum of actual value was given, but the Michigan Board of Tax Commissioners has carefully estimated 61 per cent. for the 1911 assessment. Sixty per cent. was taken as the basis for reducing the 1910 assessment in Michigan, and the Texas assessment wasset down as being at 50 per cent. of actual value. For Iowa the 1911 assessment is used, because thereport for 1910 did not include the railroads and telegraph and telephone lines. The Nebraska assessment is also for 1911, that for 1910 not being given. The Kansas assessment for 1910 is used, but instead of the 100 per cent. alleged for that year, 90 per cent. was taken from the report for 1911 as the basis for reducing the 1910 assessment to the uniform basis of the Table.

or by considering the total valuation of property and the total expenditure of the entire group. The former procedure yields the 90 cents given in the

table; the other way gives 85 cents.

In the column "Amount Spent by State Institutions for Higher Education per Inhabitant," the average of the different conditions is 66 cents, and the total annual cost of all the institutions divided by the total population of all the States is 54 cents.

In the last column the average of the different rates is 6 cents, and the

corresponding fact for the entire group is 53 cents.

For the purpose of what may be called a composite photograph, the appropriate averages have been given in the tables.

One concluding remark should be made concerning the original data. Within the available time, no pains have been spared to make them accurate; but no one could know better than the writer that accuracy has been only approximated. Printed reports have been corrected by correspondence as far as possible. Some points remain unverified, but, judging from experience, and from the nature of the data, it may be believed that the "Average" would nowhere be substantially altered by further corrections. Particular items would be altered by prolonged investigations; but the changes would work both ways, and the sum totals could not be much affected. In every column it would probably be a case of compensating errors which are eliminated from the average.

THE "AVERAGE."

We may now consider the "Average" of this group of States, selected at the outset as being the States which have at least undertaken by reasonable financial measures to secure efficient services from their State institutions for higher education. That the people of those States appreciate what they are experiencing, is demonstrated by the fact that their Legislatures regularly appropriate an additional amount approximately equal to the proceeds of the specific taxes for the same purpose.

The "Average" is a State with a population of 2,499,722 (Texas, 3,896,542); with property, assessed at 50 per cent. of actual value, amounting to

\$1.599,163,211 (Texas, \$2,391,109,795).

The commonwealth university of this average State spends yearly in its activities 66 cents per inhabitant and 90 cents per \$1000 of an assessment at 50 per cent of actual value (Texas, 22 cents, and 37 cents), or \$1,357,706 (Texas, \$890,795). Its institution has 369 professors and instructors (Texas, 201); 3805 students (Texas, 3268); and a "plant" valued at \$4,756.680 (Texas, 3,214,485).

In order to adjust matters to an equal basis for comparison, it is necessary to reduce the average conditions to an equilibrium with Texas conditions. How should this be done?

Three factors require consideration, viz.: population, wealth, number of

students.

If the average State grew in population to that of Texas, and if its institution continued to spend 66 cents per inhabitant, it would spend \$2,571,708 a year.

If the taxed wealth of the average State grew to that of Texas, and its institution continued to spend 90 cents per \$1000 (at 50 per cent of actual

value), it would spend \$2,151,999.

There is no theoretical ground for combining two results, one derived from population and the other from assessed property valuations; but, in order to give weight to both factors, let us take the mean, or half the sum of the two.

That gives \$2,361,858.

If the alternative rates, derived on page 9, the 54 cents per inhabitant spend by the 27,496,943 inhabitants of all the States as one body, and the 85 cents per \$1000 of the total property assessment of the entire group, were used instead of the averages, the results would be \$2,104,133 and \$2,032,444, giving the mean \$2,068,289. The difference is \$292,569; but the allowances already made, and others yet to be made, more than cover that difference. The averages give the more just basis, and the most reliable result afforded by the data is \$2,361,858.

That amount then—\$2,361,858—is what the State institutions of higher education would have spent last year in Texas, if they had been working on the same standard of efficiency as the average of the institutions of the other States, and if the youth of Texas sought the advantages of higher education in the average proportion.

At this point an element is introduced which it is impossible to deal with

adequately from the statistical data.

We will proceed, however, to ascertain, as nearly as may be, what it would have cost to have done equally well last year by the students then on our campuses, as was done in the other States. It must be borne in mind that this procedure ignores the fact that the population of Texas is nearly 60 per cent greater than that of the "Average" State, and also loses sight of the manifold services needed by the people besides the instruction of the youths who go to college.

In the entire group of States there were 41,854 students in the State institutions, out of a total population of 27,496,943; that is to say, about 1.5 for each 1000. Accordingly our "Average" State, after growing to the population of Texas, would have increased the number of its students from 3805

to 5844.

The State institutions of Texas had last year 3268 students, which is only 0.8 of a student per 1000 of population. The average expenditure was \$364 per student. Hence an opponent of a proposal for the proper maintenance might claim that the average scale of investment would have been reached by an expenditure equal to the average rate per student multiplied by the number of regular students in the Texas institutions last year. That result is \$364 multiplied by 3268, or \$1,189,552.

The total expenditure by the three Texas institutions last year from all sources (only \$595,017 from taxation) was \$890,795. Accordingly, it would have required about \$300,000 more to have given the Texas institutions last year the average teaching force. Of course, this view disregards all other services to the people, and considers only the teaching of students in regular

attendance. Investigation and research, correspondence schools, experiment

stations, and extension work of all kinds are excluded.

If we had better maintained institutions in Texas, more students would seek to profit by them. And if institutions of average efficiency were developed, Texas would not remain behind the average State in the number per thousand of her inhabitants who would avail themselves of the advantages offered.

It would be foolish to base calculations for the future upon the number of students last year, and it would be advisable not to assume a lower level for Texas than the average of all the States that are even attempting to secure the benefits in question.

One-and-a-half students per thousand of population might exceed the fact for two years, but no longer, if better equipment and maintenance increased and extended the advantages of attendance. Even under present conditions,

the number of students grows rapidly every year.

The one or two years that might allow some saving in the factor of cost which depends upon the number of students would afford an opportunity to supply deficiencies in equipment. This is the point at which to consider the enormous discrepancy in the cost of the "plant," that exists between Texas and the "Average."

The average institution in a State of only five-eighths of our population

has a plant costing \$1,500,000 more.

Texas could not save out of an income provided for the normal attendance in other States, during the year or two that might elapse before the number of students became normal, enough to supply even \$500,000 of the present \$1,500,000 deficiency in material equipment. This fact disposes of all candidobjections to immediate action on the proper basis, that might be offered on account of the present sub-normal attendance.

It is not the purpose of this discussion to exhort, but to give reliable information. Comment has been confined to elucidation: a fact is not the truth for a mind that does not comprehend its true relations.

The important conclusion of this investigation is now at hand.

It would be an affectation of impossible accuracy to deal, at this stage, with figures in the first four places of enumeration. From the conservatively derived figure, \$2,361,858, we may take \$2,350,000 as the lowest that will admit Texas to the company of the States that are giving practical attention to their institutions for higher education.

Of that amount, about \$350,000 a year may be counted upon from the Federal government, endowment, and student fees. The remainder, \$2,000.000, would have to be provided for the three existing institutions from the

revenues of the State.

Upon the Texas assessment for 1911, \$2,515,594,626, a tax of eight-tenths of a mill (8 cents on \$100) would yield \$2,012,475, less cost of collection.

If the deduction for cost of collection and delinquency were estimated, as is customarily done in the Comptroller's department, at 20 per cent of the nominal proceeds, the net proceeds of such a tax would be reduced by \$402,-495, or to \$1,609,980. That amount would fall short by nearly \$400,000 of the \$2,000,000 required. But 20 per cent for cost of collection and de-



linquency is, I believe, too high an estimate. The net procedua would not fall very short of the requisite sum—\$2,000,000.

The rate of eight-tenths of a mill, or 8 cents on \$100, would suffice, with wise administration, to reach the present average standard in the other States.

One of the great advantages of an established tax for educational institutions is the fact that the increase of property value keeps pace, at the same tax rate, with the increase of students and with the increasing needs of a growing population for many direct public services.

The rate, 8 cents on the \$100, if Texas candidly proposes to attend intelligently to the business of providing for efficient services from its State institutions of higher education, will seem high only to those not informed of the actual practice in other States.

The average of the eleven States is 6 cents (without due allowance for cost of collection), and that has already been raised by the recently established 10-cents tax for the University of Illinois. The reader is also reminded again that in California, Illinois, and Ohio, great universities which have been entirely excluded from consideration equal or exceed the State universities.

The co-operation of the people to secure for themselves the services of a comprehensive and efficient university, requires in Wisconsin 8½ cents, in Minnesota 8¾ cents, in Michigan 6½ cents, in Iowa 7 cents, in Colorado 7¼ cents,—with almost no allowance for cost of collection. These being the States of the whole list with which Texas would be most justly and most willingly compared, the 8 cents suggested for Texas should not startle anybody.

There are many Texans who would not be permanently satisfied by securing only average educational and scientific services from their institutions; but it would be prudent to postpone any undertaking looking toward leadership, until appropriate measures for so high an enterprise can be adopted in the light of experience with an average status.

Perhaps the people of Texas do not now desire enlarged and more efficient services from their State institutions; but, if they do, they may learn here

what they will undoubtedly have to pay to secure such services.

Upon the question of desire, all that could be needed is a knowledge of the many valuable services to the people, not now generally understood outside of those States whose social and industrial enterprises are already profiting by such services.

The people would desire if they knew.

ARTHUR LEFEVRE, Secretary for Research.

Austin, Texas, March 28, 1912.